



The Key Changes

Organization

- Business Incubator
- Planning Unit
- Real Estate Unit
- Energy Unit
- Centralize Maintenance Operations

Partnerships

Planning and Design

- CP & Associates 
- Arcturis 
- HOK 
- Trivers 

Partnerships

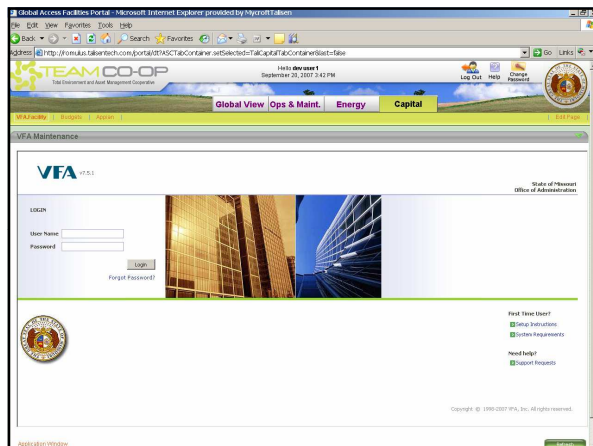
Performance Contracts

- JCI 
- Ameresco 
- Benham 
- Burns & McDonald 
- Control Technology Solutions 
- Trane 
- Energy Systems Group 
- Noresco 

Partnerships

Contractors/Developers/Finance

- JE Dunn 
- DFC Group 
- DESCO 
- Bank of America 
- Citigroup 

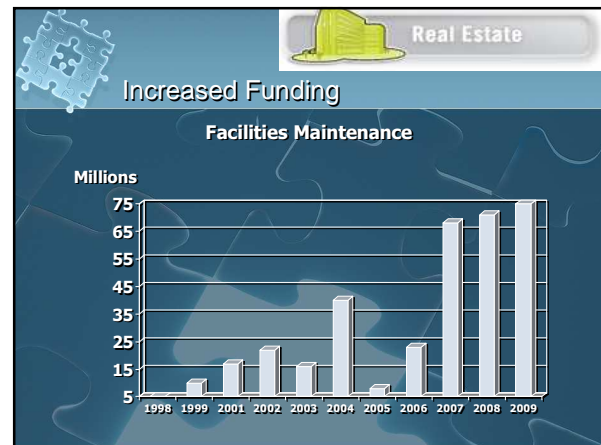


Real Estate

1, 2, 3, 4, . . . How much?

The Problem

- What is the current condition?
- What is the future budgeting prioritization/allocation?



Real Estate

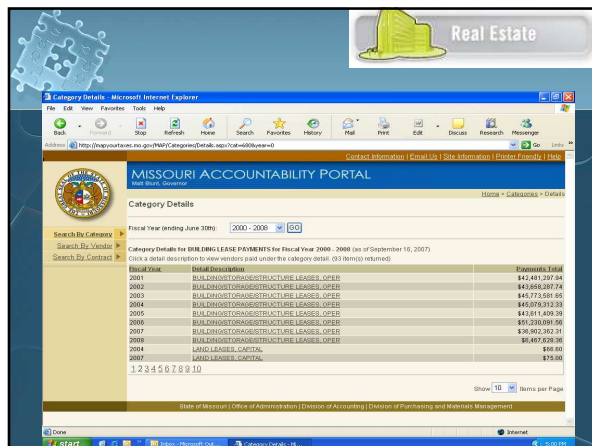
The Solution

- ARCHIBUS (Space Management)
 - Polylined and information centralized in ARCHIBUS
 - Developed and implemented "New Space Standards"
 - Near real time billing
 - Strategic master planning

Real Estate

Money...Money...Money...Money Results

- \$6.5 M to General Revenue
- \$7.8 M in Space Consolidation
- \$51 M Real Estate Budget



Real Estate

Results

\$20.2 Million Sold in Excess Real Estate




Midtown State Office Building 505 Washington

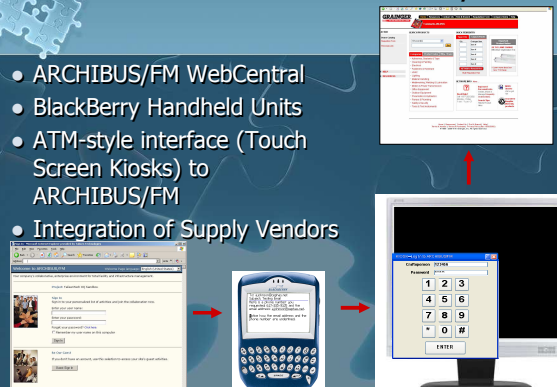
Operations



A photograph of a blue and orange Emglo water pump installed in a concrete structure.

Work Order Automation/CMMS

- ARCHIBUS/FM WebCentral
- BlackBerry Handheld Units
- ATM-style interface (Touch Screen Kiosks) to ARCHIBUS/FM
- Integration of Supply Vendors



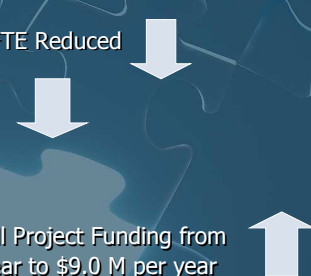
Training Operations

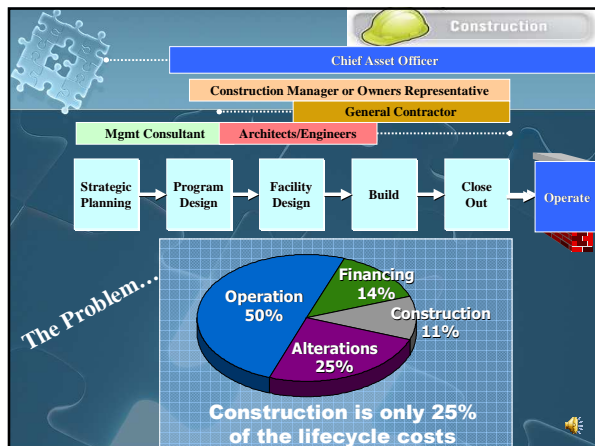


A photograph of a complex water system training rig with various pipes, valves, and gauges, branded with the Armstrong logo.

Operations

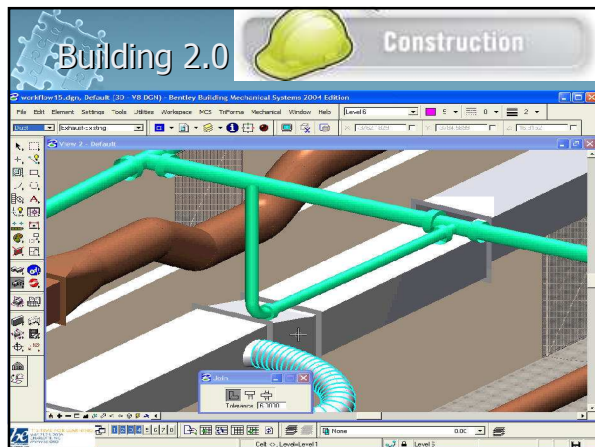
- Results
 - \$1.6 M – 68 FTE Reduced
 - Reduced FCI
 - 2007 - .155
 - 2008 - .147
 - 2009 - .142
 - Doubled Small Project Funding from \$4.5 M per year to \$9.0 M per year





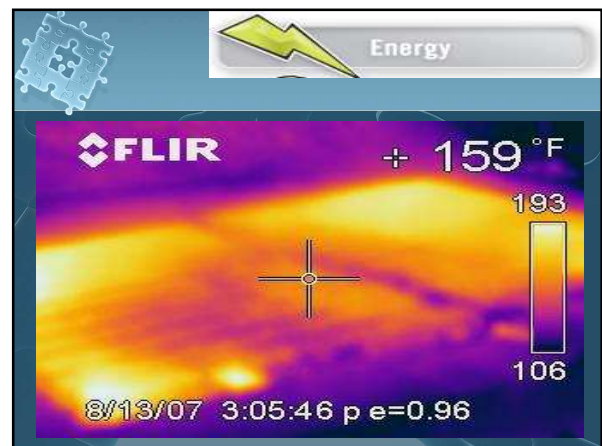
Construction

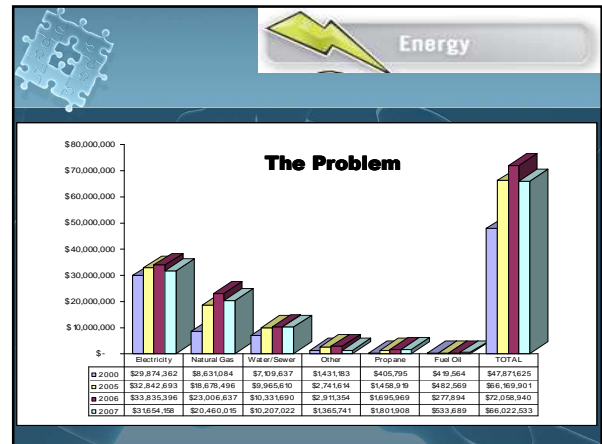
- The Solution
 - PACE Contracts / CM Services
 - Business Process Mapping *Applan*
 - Senate Bill 322



Construction

- Results
 - 30 FTE - \$1.7 M per year reduced
 - Best Value Procurement *ASU*
 - Job Order Contracting to \$300,000





• The State of Missouri shall reduce energy consumption per square foot per degree day in all conditioned facilities by an average of 15% by 2010, relative to FY2005 levels.

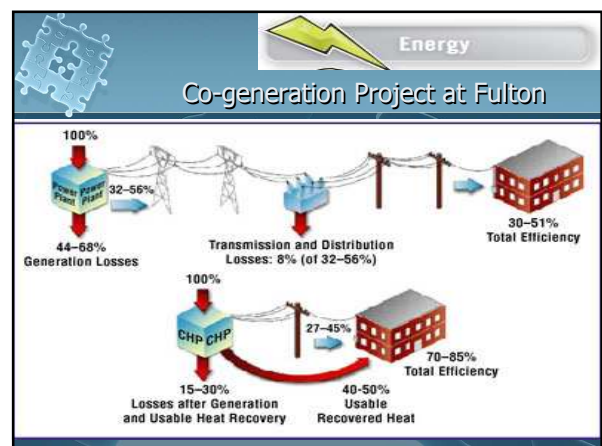
Our Goal...

Well maintained facilities use less energy...

- In-House Initiatives
- Energy Performance Contracts Program
- Statewide Energy Management, Technology & Communications Initiatives

In-House Energy Initiatives

- Transported Natural Gas Purchases
 - FY07 Savings \$1.9 M
- Department of Corrections hot water to ozone laundry conversion
 - Annual Savings \$892,593
- Conservation efforts by establishing cooling season and heating season set points
- Steam trap maintenance program
 - Annual Savings to date \$839,188
 - Of 3,000 only 1,500 surveyed
- Pre-purchased \$1.3 M of natural gas with FY07 savings for use in FY08 winter operations.
- Establishment of a statewide preventative maintenance program
- Moderly in-house lighting replacement project
 - Annual Savings \$143,522



Energy

Standard Performance Contract

- 14 Million sq. ft. Under Audit / Contract / Construction
 - Lighting Retrofits
 - Water Conservation Measures
 - Energy Management System
 - HVAC Replacements
 - Replace Windows
 - Upgrade Electrical System
 - Replace Chiller

Energy

Landfill Project – Renewable Energy



Energy


LFG Evaluation

Projected Mmbtu Need Of 115,503, The LFG Has A Predicted Production of 108,600 Mmbtu

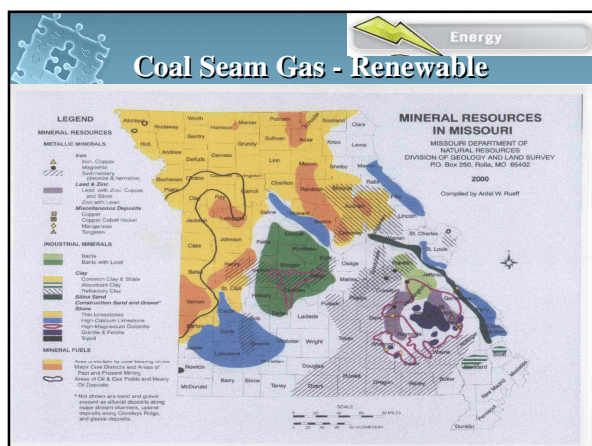
	Mmbtu Usage FY 06	Mmbtu Cost Avg.	Costs FY 06	Projected Mmbtu Need	Projected Cost Using LFG & Nat.	Projected First Year Annual Cost	Projected First Year Savings
JCCC	58,720	\$12.32	\$723,430	58,720	\$5.21	\$305,931	
ALGOA	56,783	\$12.32	\$699,567	49,880	\$5.21	\$259,875	
				6,903	\$12.32	\$85,045	
Total	115,503	\$12.32	\$1,422,997	115,503 *		\$650,851	
			\$1,422,997			\$650,851	\$772,146

Energy

Bio-Mass Boiler – Renewable Energy



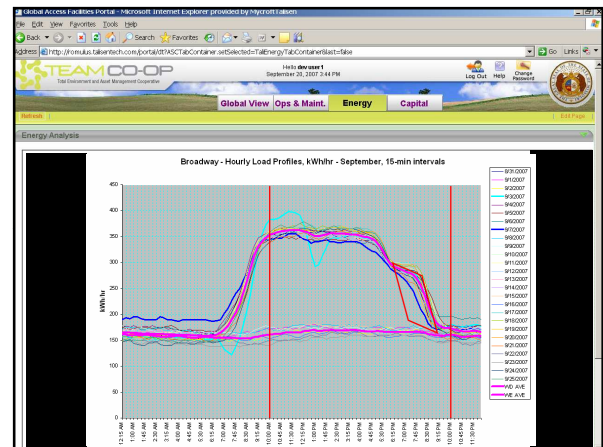
Annual Savings = \$565,000



Energy

Standard ESCO - ROI

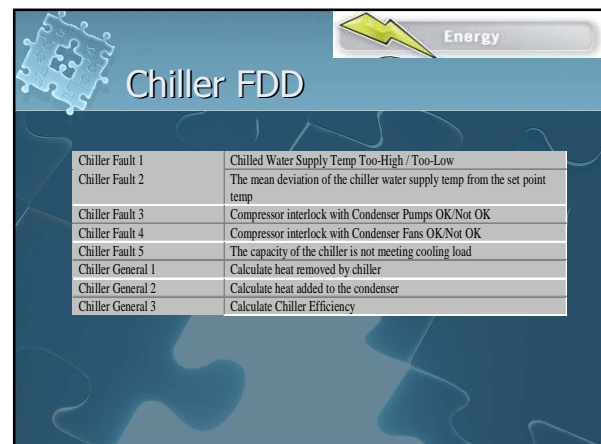
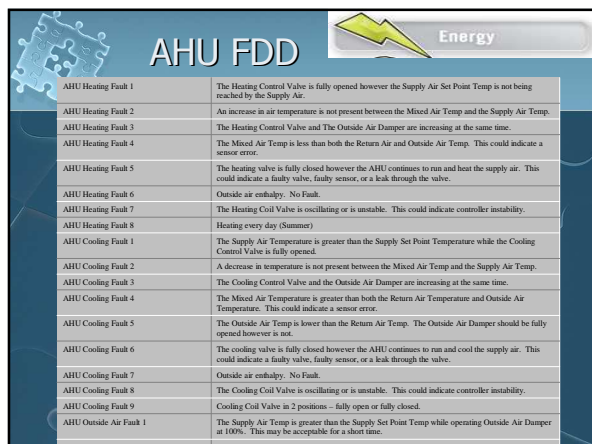
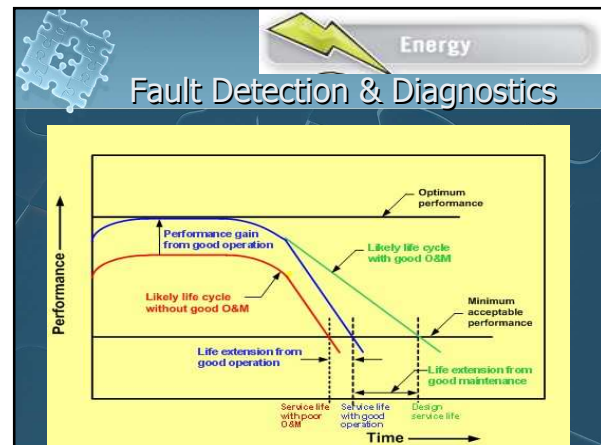
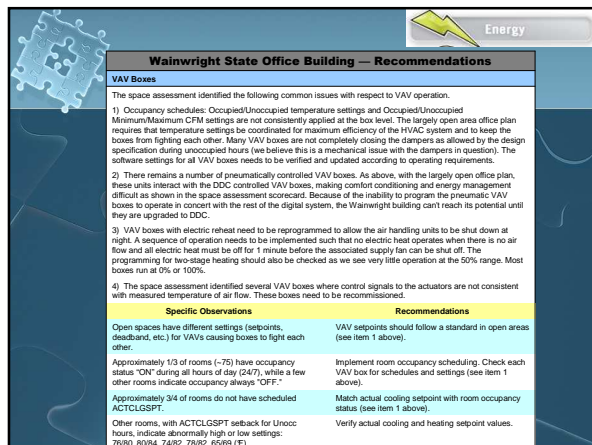
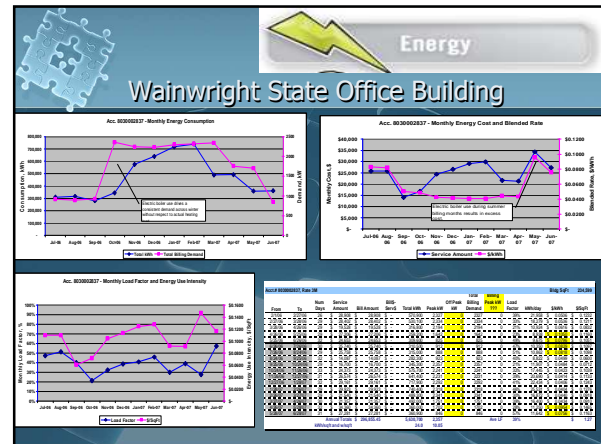
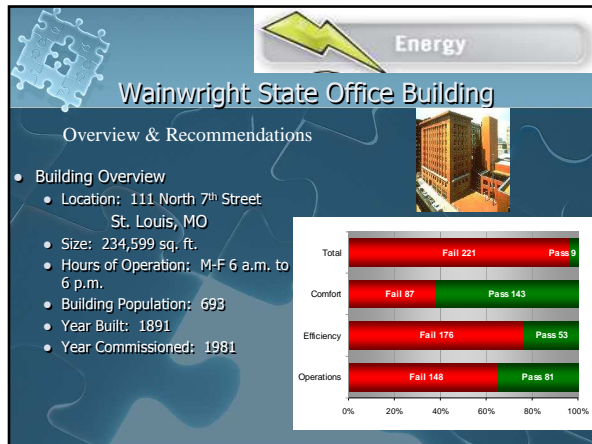
- 11,529,245 sq. ft.
- Cost - \$7.13 per sq. ft. One Time Cost
- Guaranteed Annual Savings
 - \$.84 per sq. ft. energy savings
 - \$.35 per sq. ft. operating savings
- Energy Simple Pay Back – 8.5 Years
- Total Pay Back – 6 Years

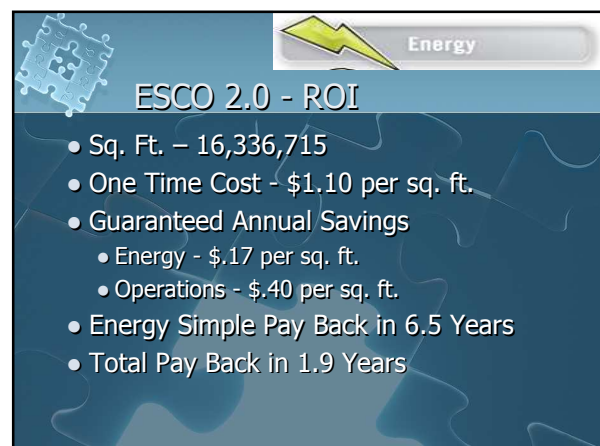
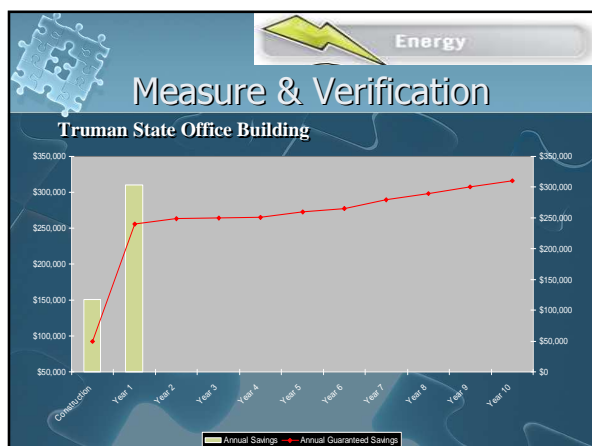
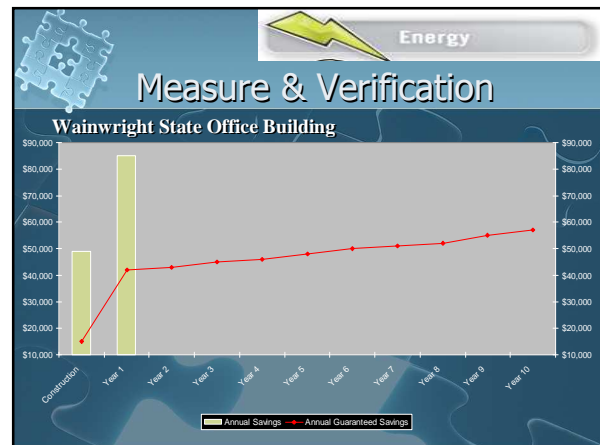
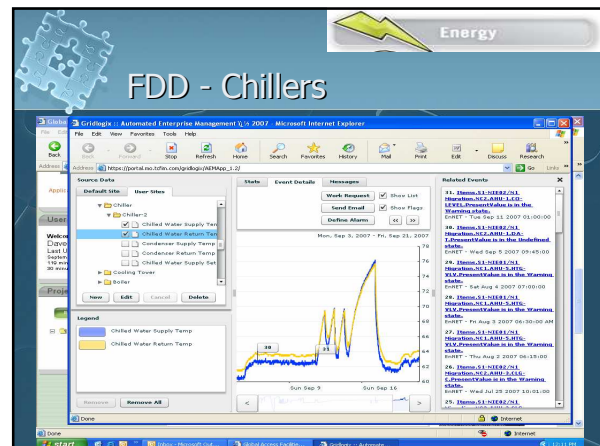
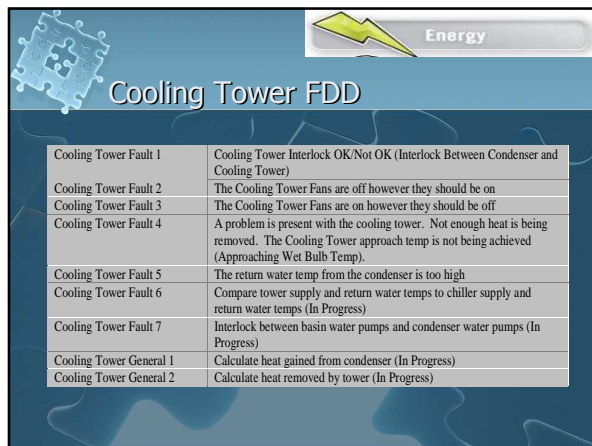




Energy

Automated Enterprise Management

- Initial Commissioning
- Fault Detection and Diagnostics
- Demand Response





Energy

Emissions Savings (Lbs.)

CO2	196,480,587
NOX	293,829
SOX	511,960



Savings Recap

	Annual	One Time
Real Estate	\$14.3 M	\$20.2 M
Operations	\$1.6 M	
Construction	\$1.7 M	
Utilities	\$16.2 M	\$1.3M
TOTAL	\$33.8 M	\$21.5 M

